CLAIMS

1. A Diversity Handover, DHO, node adapted to execute a macro diversity functionality in a mobile telecommunication system comprising means for performing an uplink combining of Dedicated Channel, DCH, frames, **characterised in** that said DHO node comprises means for estimating the size of an adaptive receive window for receiving said DCH frames, the adaptive receive window comprises a starting point, denoted ref, and an end point for receiving a next DCH frame or a next set of DCH frames to be combined having a Connection Frame Number n, CFN_n, based on the Time of Arrival, ToA, of a previous frame or a previous set of frames having a CFN_{n-1}, and means for adjusting the adaptive receive window by changing its end point for a new frame or a new set of frames in accordance with the estimated size.

2. The DHO node according to claim 1, wherein the receive window has an allowed minimum size.

3. The DHO node according to claim 1, wherein the end point of the adaptive receive window for DCH frame n or set of DCH frames n is set to a time distance of M from a latest expected ToA of DCH frame n or set of DCH frames n.

4. The DHO node according to claim 3, wherein the M is adaptive and is depending on the estimated size of the receive window.

5. The DHO node according to claim 1, wherein the size adjustment of the adaptive receive window is controlled by a receive window end advancing step parameter adapted to slowly reduce the size of the receive window when the frame or set of frames arrives before the end of the receive window.

6. The DHO node according to claim 5, wherein the receive window end advancing step parameter is a constant value.

7. The DHO node according to claim 5, wherein the receive window end advancing step parameter is depending on the ToA of the current

DCH frame or the last frame of a set of DCH frames when the current DCH frame or the last frame of a set of DCH frames arrives after the end point.

8. The DHO node according to claim 1, wherein the DHO node comprises means for receiving an initial end point of the receive window from the RNC.

9. The DHO node according to the previous claim, wherein the received initial end point is used as a starting point for a first frame or set of frames to be combined.

10. The DHO node according to claim 1, wherein the DHO node comprises means for preconfiguring an initial end point.

11. The DHO node according to claim 1, wherein the end point of the receive window is extended to an extended end point in order to counteract the speed of the receive window end advancing parameter when DCH frames arrive relatively frequently after the end point but before the extended end point.

12. The DHO node according to any of the previous claims, wherein the specified times are relative times.

13. The DHO node according to claim 1, wherein an initial end point is set to the ToA of the first uplink DCH frame from a macro diversity leg with an added margin d.

14. The DHO node according to claim 3, wherein M is fixed and the DHO node comprises means for receiving M from the RNC.

15. The DHO node according to claim 3, wherein M is fixed and preconfigured.

16. The DHO node according to any of claims 1 or 2, wherein the ToA is being replaced by a Time of Arrival of the Last Frame of a set of frames to be combined and said receive window is being calculated as a common receive window for all legs.

17. The DHO node according to claim 12, wherein the relative ToA is being replaced by a relative Time of Arrival of the Last Frame of a set of frames to be combined and said receive window is being calculated as a common receive window for all legs.

18. A method for executing a macro diversity functionality in a mobile telecommunication system comprising the step of performing an uplink combining of Dedicated Channel, DCH, frames the method is **characterised in** that the method comprises the further steps of:

-*estimating* the size of an adaptive receive window for receiving said DCH frames, wherein the adaptive receive window comprises a starting point, denoted ref, and an end point for receiving a next DCH frame or a next set of DCH frames to be combined having a Connection Frame Number n, CFN_n, based on the Time of Arrival, ToA, of a previous frame or a previous set of frames having a CFN_{n-1}, and

-*adjusting* the adaptive receive window by changing its end point for a new frame or a new set of frames in accordance with the estimated size.

19. The method according to claim 18, wherein the receive window has an allowed minimum size.

20. The method according to claim 18, wherein the method comprises the further step of:

-*setting* the end point of the adaptive receive window for DCH frame n or set of DCH frames n to a time distance of M from a latest expected ToA of DCH frame n or set of DCH frames n.

21. The method according to claim 20, wherein the M is adaptive and is depending on the estimated size of the receive window.

22. The method according to claim 18, wherein the method comprises the further step of:

-*controlling* the size adjustment of the adaptive receive window by a receive window end advancing step parameter adapted to slowly reduce the size of the receive window when the frame or set of frames arrives before the end of the receive window.

23. The method according to claim 23, wherein the receive window end advancing step parameter is a constant value.

24. The method according to claim 23, wherein the receive window end advancing step parameter is depending on the ToA of the current

DCH frame or the last frame of a set of DCH frames when the current DCH frame or the last frame of a set of DCH frames arrives after the end point.

25. The method according to claim 18, wherein the method comprises the further step of:

-receiving an initial end point of the receive window from the RNC.

26. The method according to the previous claim, wherein the method comprises the further step of:

-using the received initial end point as a starting point for a first frame or set of frames to be combined.

27. The method according to claim 1, wherein the method comprises the further step of:

-preconfiguring an initial end point.

28. The method according to claim 18, wherein the method comprises the further step of:

-extending the end point of the receive window to an extended end point in order to counteract the speed of the receive window end advancing parameter when DCH frames arrive relatively frequently after the end point but before the extended end point.

29. The method according to any of the previous claims 18-28, wherein the specified times are relative times.

30. The method according to claim 18, wherein the method comprises the further step of:

-setting an initial end point to the ToA of the first uplink DCH frame from a macro diversity leg with an added margin d.

31. The method according to claim 20, wherein M is fixed and the method comprises the further step of:

-receiving M from the RNC.

32. The method according to claim 20, wherein M is fixed and preconfigured.

33. The method according to any of claims 18 or 19, wherein the method comprises the further step of:

-replacing the ToA by a Time of Arrival of the Last Frame of a set of frames to be combined and

-calculating said receive window as a common receive window for all legs.

34. The method according to claim 29, wherein the method comprises the further step of:

-replacing the relative ToA by a relative Time of Arrival of the Last Frame of a set of frames to be combined and

-calculating said receive window as a common receive window for all legs.

35. A computer program product directly loadable into the internal memory of a computer within a Diversity Handover node in a mobile telecommunication system, comprising the software code portions for performing the steps of any of claims 18-34.

36. A computer program product stored on a computer usable medium, comprising readable program for causing a computer, within a Diversity Handover node in a mobile telecommunication system, to control an execution of the steps of any of the claims 18-34.